```
**********************************************************
*                                                        *
*          QQQQQQQQ      ZZZZZZZZZZ    XX      XX      *
*         QQQQQQQQQQ     ZZZZZZZZ       XX    XX       *
*         QQ      QQ           ZZ        XX XX          *
*         QQ      QQ          ZZ          XXX           *
*         QQ      QQ         ZZ           XXX           *
*         QQ    QQ QQ       ZZ            XX XX         *
*         QQQQQQQQQQ       ZZZZZZZZ      XX   XX       *
*          QQQQQQQQ        ZZZZZZZZZZ    XX     XX     *
*                QQ                                      *
*                                                        *
**********************************************************
```


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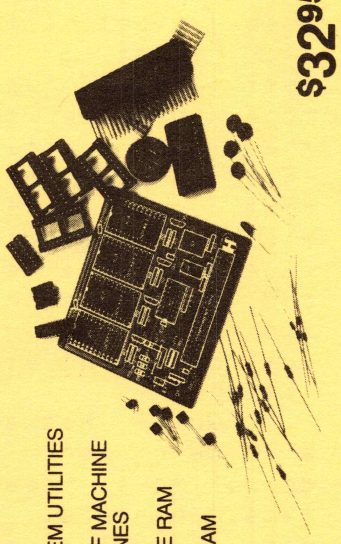

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What a super product!...conceived and executed very nicely...and with quality components. **(SYNTAX QUARTERLY Winter 82)**

8K Nonvolatile memory is a gem! It has so many possible uses...I recommend this board most heartily. **(OKLAHOMA S.U.G. Newsletter 1/3)**

We found the documentation to be far superior to that (of) most hardware we've received. **(S.U.N. Newsletter Nov/Dec 82)**

For versatility this is even better than an EPROM...ranks quite high on the list of "must-haves"... **(SYNC Magazine Mar/Apr 83)**

Provides the user with instant software...an extremely versatile memory extension... **(Z-WEST June 83)**

INTRODUCTION

This memory board is designed to fill the transparent 8K block of memory (from 8K to 16K) in a ZX81-16K system. This area of memory is an ideal place to store, either permanently or temporarily, machine language routines or data which are to be used by the BASIC system.

Sample utilities are included with the kit.

The use of HM6116LP 2K CMOS RAM memory IC's with their own reserve power supply means that routines stored in the RAM are nonvolatile — the RAM retains its memory even when the ZX81 is switched off or reset. Moreover, being RAM, the routines you store in the memory are easily modified. The lithium cell supplied with the board will maintain sufficient reserve power for almost ten years.

ASSEMBLY

Complete step-by-step instructions in a 20 page manual make assembly of the board easy. The kit (pictured above) is complete with a silkscreened solder-masked printed circuit board, all capacitors, resistors, transistors, sockets, connectors, integrated circuits, and the lithium cell. The board is supplied with one 2K CMOS 6116LP-3 RAM — it will accomodate three more for a total of 8K.

Complete kit with one 2K 6116LP-3	$32.95
Additional three 6116LP-3	~~$40.00~~ $35.00
Bare pc board & manual	$13.05
Kit for EPROM use only	$22.95
Assembled & tested with 2K	$47.95
Assembled & tested with 8K	$65.95
Shipping & handling per order	$ 1.95

Send check or money order to the address below:

HUNTER, 1630 FOREST HILLS DRIVE, OKEMOS, MI 48864

QL <3>

Alex. F Burr K5XY

This month the focus of this column is on one of the four software packages which comes with the QL. These packages provide a comprehensive word-processing, planning, information handling, and graphics capability and are intergrated in style, structure, design, and in the sharing of information. The wordprocessor is called QUILL, the spreadsheet is called ABACUS, the database is called ARCHIIVE, and the graphics program is called EASEL.

According to Sinclair, each program is more powerful and functional than existing equivalent products for desktop computers. The software has been designed to make these powerful tools available and usable by a mass market with no prior training or knowledge. The software understands the user, rather than the user having to understand the software.

All of the programs have a structure which takes the user directly to the most commonly used facilities, enabling even the most inexperienced person to perform useful tasks immediately. As an individual becomes more experienced, control of more parameters is possible and the most expert can achieve the very high levels of sophistication built into the software.

At all times a totally interactive approach is used. The visual effect and response to any user action is immediate. The output is always displayed on the screen in the format it will be printed or plotted. For example there are no special control characters to indicate various type fonts. The type font itself is shown.

The software is self-documented. Throughout the programs comprehensive information on the current status and on available actions are displayed in full English. Continuous prompting is directed at the current action being pursued. In addition, a comprehensive HELP function is available in all the packages and at all times. No matter where the user is in the software, even in the middle of a complex input, simply pressing function key 1 will help call up the full HELP screen of relevant information. Further HELP pages can be followed or the user may return precisely to where he was in the program through the ESCAPE key.

Here are some of the further details of QUILL, the word processor program.

The comprehensive command and control panel at the top of the screen details which actions are available, and constantly updates to provide relevant information. The status panel at the bottom of the screen gives current status.

In common with the other programs, QUILL is fully interactive with real time margin variation, justification, page formatting, and other commands. Whatever course of action is taken, produces immediate visual results. The natural corollary to this is the adoption of the What You See Is What You Get format with the various font styles shown directly on the screen as Bold, superscript, subscript and underline.

QUILL exhibits an intelligent attitude in the implementation of its many functions. For example, when inserting text in the middle of existing text, automatic justification takes place, unless more than one word is typed, when the line splits to allow more insertions without the distracting continuous justification. There is also a command, Glossary, which saves or recalls passages of text and format instructions with just two keystrokes, taking the tedium out of typing standard formats of letters.

Quill has all the features of a modern work processor: erase, copy, move, search and replace, tabs, headers, footers, plus some more unusual ones such as Viewing a wide document to check for overall layout and format, Glossary, and the Import of data, tables, and graphs from the rest of the applications software suite.

"TUNER" IS ONE OF A SERIES OF PROGRAMS COMPRISING THE KA2LHO HAM HELPER SERIES. THE PROGRAMS WERE DESIGNED TO PUT THE TIMEX/SINCLAIR FAMILY OF COMPUTERS TO WORK IN THE HAM SHACK AND THEY SERVE A VARIETY OF PURPOSES FROM DATA FILES TO QSL PRINTING. FOR INFORMATION ON THE COMPLETE SERIES SEE PAST ISSUES OF QZX OR SEND A BUSINESS SIZE S.A.S.E. TO THE ADDRESS FOUND LATER IN THIS ARTICLE.

"TUNER" IS A PROGRAM DESIGNED FOR THOSE HAMS WHO USE AN ANTENNA TUNER IN THEIR SHACKS. PROVISIONS ARE MADE FOR SETTINGS ON TWO DIFFERENT ANTENNA SET-UPS AND FIVE BANDS. BOTH CW AND PHONE SUB-BANDS ARE SUPPORTED BY THIS PROGRAM.

THE MENU OPTIONS ARE PRESENTED IN THE ACCOMPANYING INSTRUCTIONS WHICH ACCOMPANY EVERY ORDER RECEIVED FOR "TUNER". THE PROGRAM IS SELF-STARTING ONCE IT IS LOADED AND SHOULD PRESENT NO PROBLEMS FOR THE OPERATOR. REM STATEMENTS ARE IN ABUNDANCE THROUGHOUT THE PROGRAM TO ASSIST IN POSSIBLE MODIFICATIONS AND ADAPTATIONS. IF A "CRASH" DOES OCCUR THE PROGRAM MAY BE RE-STARTED WITHOUT ANY LOSS OF DATA BY USING "GOTO 1". THE USE OF "RUN" WILL CLEAR THE MEMORY OF ALL TUNER SETTINGS.

IF YOU HAVE A PRINTER, IT IS POSSIBLE TO TAKE ADVANTAGE OF THE PROVISIONS FOR PRINTING OUT YOUR TUNER SETTINGS FOR EACH CONFIGURATION. THE USE OF A PRINTER IS OPTIONAL AND THE PROGRAM RUNS PERFECTLY WELL WITHOUT IT. AN ADDITIONAL POSSIBILITY IS THE USE OF "TUNER" AS A SUB-ROUTINE IN A LARGER PROGRAM. IT REQUIRES ABOUT ONE THIRD OF THE AVAILABLE MEMORY WITH A 16K RAM PACK ATTACHED AND THUS COULD BE USED WITHIN "BIGGER AND BETTER THINGS".

IF ANYONE FEELS THEY DO NOT HAVE THE TIME TO TYPE IN THIS PROGRAM, I WILL PROVIDE IT ON A CASSETTE FOR THE PRICE OF $8.00. THIS INCLUDES TWO COPIES OF THE PROGRAM ON TAPE, A LISTING, AND INSTRUCTIONS AS PROVIDED HERE.

ALL INQUIRIES AND/OR ORDERS SHOULD BE DIRECTED TO: KRAIG D. PRITTS-KA2LHO, BOX 198, LEONARDSVILLE, NY 13364.

INSTRUCTIONS FOR "TUNER"

*** KA2LHO HAM HELPER SERIES ***

BY

KRAIG D. PRITTS
KA2LHO

-07 TUNER (16K)

LOAD "TUNER". THE PROGRAM IS SELF-STARTING AND A MENU OF OPTIONS WILL SOON APPEAR ON THE SCREEN. YOUR CHOICES INCLUDE:

1. ENTER NEW TUNER SETTINGS WHICH ALLOWS NEW ENTRIES ON YOUR CHOICE OF BAND, MODE, AND ANTENNA. THIS WILL NOT CLEAR ALL PREVIOUS ENTRIES---ONLY THE SETTING THAT YOU ARE REPLACING.

2. CHECK PRESENT SETTING-PERMITS THE OPERATOR TO CHECK TUNER SETTINGS FOR ANY BAND, MODE OR ANTENNA.

3. EXIT THE PROGRAM-ALLOWS DATA TO BE SAVED ON TAPE, IF NECCESSARY, OR TO SIMPLY EXIT THE PROGRAM.

THE PROGRAM IS SET UP TO ACCOMODATE TWO ANTENNAE (BEAM AND DIPOLE), TWO MODES (CW AND PHONE), AND FIVE BANDS (10, 15, 20, 40, AND 80 METERS). ADDITIONAL OPTIONS MAY BE ADDED BY MAKING THE APPROPRIATE CHANGES TO THE ROUTINES IN LINES 10, 20, 30, 100 TO 205, 5016, AND 5019.

I HOPE THAT YOU FIND THIS PROGRAM HELPFUL IN YOUR HAM SHACK AND ARE ABLE TO MAKE USE OF IT.

73,

KRAIG D. PRITTS

"MOBILES II" IS ONE OF A SERIES OF PROGRAMS MAKING UP THE KA2LHO HAM HELPER SERIES. THESE PROGRAMS WERE DESIGNED TO PUT THE SINCLAIR COMPUTERS TO WORK IN THE HAM SHACK AND SERVE A VARIETY OF PURPOSES FROM DATA FILES TO QSL PRINTING. FOR MORE INFORMATION ON THE COMPLETE SERIES, SEE PAST ISSUES OF QZX OR SEND A BUSINESS SIZE S.A.S.E. TO THE ADDRESS FOUND LATER IN THIS ARTICLE.

"MOBILES II" IS PROBABLY MY MOST FREQUENTLY USED PROGRAM WITHIN THE SERIES. IN ITS PRESENT FORMAT THE PROGRAM IS A DATA FILE WHICH IS USEFUL FOR COUNTY HUNTERS ACTIVE ON THE INDEPENDENT COUNTY HUNTERS NET. IT KEEPS A RECORD OF ALL CALLS WHO HAVE BEEN SENT A FIRST CONTACT QSL CARD VIA THE W6CCM MOBILE QSL BUREAU, THUS SAVING EXTRA BUREAU CHARGES AS WELL AS WASTED QSL CARD EXPENSE.

THE MENU OPTIONS ARE SELF-EXPLANATORY AND PROVIDE FOR A NEW ENTRY, SEARCH FOR A CALLSIGN IN MEMORY, DELETE A CALL IN MEMORY, PRINT A QSL CARD IF DESIRED AND KEEP A RUNNING PRINTOUT OF EACH CONTACT AS MADE. THIS LAST FEATURE FREES THE HAM OPERATOR FROM WORRYING ABOUT MAKING LOG ENTRIES UNTIL AFTER YOUR SESSION AT THE RADIO IS COMPLETED. IF YOU ARE NOT USING A PRINTER YOU MAY WISH TO DELETE THE QSL ROUTINE AND THE CONTACT LIST ROUTINE. IF THIS IS THE CASE YOU WILL ALSO WANT TO CHANGE THE "MENU" TO A MORE APPROPRIATE DISPLAY.

THE PROGRAM IS EASILY MODIFIED FOR OTHER USES (SUCH AS A CONTEST DUPING ROUTINE) AND VARIATIONS ARE ENCOURAGED. OTHER CHANGES IN THIS PROGRAM ARE SUGGESTED IN THE INSTRUCTIONS INCLUDED WITH EVERY ORDER RECEIVED FOR "MOBILES II". A COPY OF THE INSTRUCTIONS FOLLOWS THIS ARTICLE.

IF ANYONE FEELS THAT THEY DO NOT HAVE THE TIME TO TYPE IN THIS PROGRAM I WILL MAKE IT AVAILABLE AS PRINTED HERE ON A CASSETTE FOR $8.00. THIS PRICE INCLUDES TWO COPIES OF THE PROGRAM ON TAPE, A LISTING, AND INSTRUCTIONS FOR USE AND MODIFICATIONS.

ALL INQUIRIES AND/OR ORDERS SHOULD BE DIRECTED TO: KRAIG D. PRITTS-KA2LHO, BOX 198, LEONARDSVILLE, NY 13364.

INSTRUCTIONS FOR "MOBILES II"

*** KA2LHO HAM HELPER SERIES ***

BY

KRAIG D. PRITTS
KA2LHO

-04 MOBILES OR -05 MOBILES II (16K)

LOAD BY TITLE. UPON LOADING THE PROGRAM WILL START AUTOMATICALLY AND THE MENU WILL APPEAR. NEVER USE RUN OR CLEAR WITH THIS PROGRAM OR YOU WILL LOSE ALL OF THE CALLS IN MEMORY.

IF YOU WISH TO USE THIS AS A DUPING ROUTINE YOU MAY WISH TO CHANGE THE PRINTOUT IN LINES 216 AND 222 TO SOMETHING WHICH WOULD BE MORE APPROPRIATE TO YOUR SITUATION. THE NUMBER OF CALLS TO BE STORED (301) AND THE LENGTH OF THE CALL (6 CHARACTERS) IS IN LINE 105. YOU MAY INCREASE OR DECREASE THESE FIGURES AS YOUR NEEDS OR RAM SIZE REQUIRE. IF YOU CHANGE THE NUMBER OF CALLS IN LINE 105 BE SURE TO USE THE SAME NUMBER IN LINES 108, 112, 156, 210, 260, AND IN 304 (USE THE NUMBER MINUS 1). IF YOU CHANGE THE LENGTH OF THE CALL ONLY THE FIRST SIX CHARACTERS WILL BE USED IN SEARCHES UNLESS YOU ALSO EXPAND UPON THE ROUTINE IN LINES 98 THROUGH 103 WHICH CAUSES EVERY ENTRY TO BE SIX CHARACTERS LONG BY ADDING THE NECESSARY NUMBER OF SPACES TO THE END OF THE CALL.

IF YOU WISH TO CHANGE THE CALL IN THE QSL PORTION OF THIS PROGRAM, IT IS FOUND IN LINES 410 THROUGH 426. CONSTRUCTION OF THE CALL IS DONE BY USING THE GRAPHICS SYMBOLS AND CAN BE ADAPTED TO YOUR PERSONAL TASTES BY CHANGING THE PRINT LOCATIONS OR THE GRAPHICS USED.

THIS IS PROBABLY ONE OF MY MOST USED PROGRAMS AND I HOPE YOU FIND IT USEFUL AND HELPFUL IN YOUR SHACK ALSO.

73,

KRAIG D. PRITTS

LISTING FOR "TUNER"

```
  1 REM KRAIG D. PRITTS (APRIL
23, 1983) LEONARDSVILLE, NY
  1 REM "TUNER"
  2 GOTO 3000
  5 REM **B=BAND
  7 REM **A$=ANTENNA
  8 REM **M$=MODE
  9 REM **S$=SERIES CAPACITANCE
 10 DIM S$(20,5)
 19 REM **C$=SHUNT CAPACITANCE
 20 DIM C$(20,5)
 29 REM **I$=INDUCTANCE
 30 DIM I$(20,5)
 50 PRINT AT 20,0;"I AM SORRY,
THAT IS NOT A VALID","CHOICE--PL
EASE TRY AGAIN."
 55 PAUSE 50
 60 RETURN
100 REM **X RELATIONSHIPS
105 IF B=10 AND A$="BEAM" AND M
$="CW" THEN LET X=1
110 IF B=10 AND A$="BEAM" AND M
$="PHONE" THEN LET X=2
115 IF B=10 AND A$="DIPOLE" AND
M$="CW" THEN LET X=3
120 IF B=10 AND A$="DIPOLE" AND
M$="PHONE" THEN LET X=4
125 IF B=15 AND A$="BEAM" AND M
$="CW" THEN LET X=5
130 IF B=15 AND A$="BEAM" AND M
$="PHONE" THEN LET X=6
135 IF B=15 AND A$="DIPOLE" AND
M$="CW" THEN LET X=7
140 IF B=15 AND A$="DIPOLE" AND
M$="PHONE" THEN LET X=8
145 IF B=20 AND A$="BEAM" AND M
$="CW" THEN LET X=9
150 IF B=20 AND A$="BEAM" AND M
$="PHONE" THEN LET X=10
155 IF B=20 AND A$="DIPOLE" AND
M$="CW" THEN LET X=11
160 IF B=20 AND A$="DIPOLE" AND
M$="PHONE" THEN LET X=12
165 IF B=40 AND A$="BEAM" AND M
$="CW" THEN LET X=13
170 IF B=40 AND A$="BEAM" AND M
$="PHONE" THEN LET X=14
175 IF B=40 AND A$="DIPOLE" AND
M$="CW" THEN LET X=15
180 IF B=40 AND A$="DIPOLE" AND
M$="PHONE" THEN LET X=16
185 IF B=80 AND A$="BEAM" AND M
$="CW" THEN LET X=17
190 IF B=80 AND A$="BEAM" AND M
$="PHONE" THEN LET X=18
195 IF B=80 AND A$="DIPOLE" AND
M$="CW" THEN LET X=19
200 IF B=80 AND A$="DIPOLE" AND
M$="PHONE" THEN LET X=20
205 RETURN
300 IF Z$="3" THEN GOTO 5000
3000 REM **MAIN MENU
3005 CLS
3010 PRINT AT 1,0;"[illegible]
[illegible]"
3012 PRINT AT 5,6;"*** TUNER ASS
IST ***"
3014 PRINT AT 7,15;"BY";AT 9,4;"
KRAIG D. PRITTS - KA2LHO"
3016 FOR X=1 TO 30
3018 NEXT X
3020 CLS
3022 PRINT
3025 PRINT "DO YOU WISH TO:"
3030 PRINT
3040 PRINT "1. ENTER NEW TUNER S
ETTINGS?","2. CHECK PRESENT SETT
INGS?","3. EXIT THIS PROGRAM?"
3050 INPUT Z$
3060 IF Z$="1" THEN GOTO 4000
3070 IF Z$="2" THEN GOTO 5000
3080 IF Z$="3" THEN GOTO 6000
3090 GOSUB 50
3092 PRINT AT 20,0;"
```

CORRECTION TO MORSE CODE TEACHER PROGRAM IN JUNE '84 QZX

A TYPING ERROR WAS IN MACHINE CODE SET-UP WHICH WOULD NOT ALLOW PROPER ENTRY OF "-" AND "." IN THE PROGRAM. TO CORRECT TYPE POKE 16554,195 AND POKE 16555,165 BEFORE YOU RUN THE PROGRAM.

NOTE: KA2GCM ADDRESS: 3. SAVE THE CORRECTED VERSION. GOOD LANE ALLOWOOD, NJ 08725

TUNER (CONTD)

```
3095 GOTO 3050
4005 CLS
4012 GOSUB 5000
4015 PRINT
4020 PRINT "ENTER THE NEW SETTIN
GS FOR"
4025 PRINT B;" METER ";M$;" OPER
ATION WHILE","USING THE ";A$;" A
NTENNA."
4035 GOSUB 100
4040 PRINT
4045 PRINT "$SERIES$CAPACITANCE$
";
4050 INPUT S$(X)
4055 PRINT S$(X)
4060 PRINT
4065 PRINT "$SHUNT$CAPACITANCE$
";
4070 INPUT C$(X)
4075 PRINT C$(X)
4080 PRINT
4085 PRINT "$INDUCTANCE$ ";
4090 INPUT I$(X)
4095 PRINT I$(X)
4098 IF Z$="2" THEN RETURN
4100 PAUSE 50
4105 GOTO 3020
5000 REM **PRESENT SETTINGS
5005 CLS
5010 PRINT AT 1,0;"ON WHAT BAND
ARE YOU OPERATING? ";
5015 INPUT B
5016 IF B<>10 AND B<>15 AND B<>2
0 AND B<>40 AND B<>80 THEN GOSUB
 50
5018 PRINT AT 20,0;"
                    "
5019 IF B<>10 AND B<>15 AND B<>2
0 AND B<>40 AND B<>80 THEN GOTO
5010
5020 PRINT AT 2,0;B;" METERS"
5030 PRINT AT 4,0;"ARE YOU USING
 THE ""BEAM"" OR","""DIPOLE"" AN
TENNA? ";
5035 INPUT A$
5036 IF A$<>"BEAM" AND A$<>"DIPO
LE" THEN GOSUB 50
5038 PRINT AT 20,0;"
                    "
5039 IF A$<>"BEAM" AND A$<>"DIPO
LE" THEN GOTO 5035
5040 PRINT AT 5,19;A$
5050 PRINT AT 7,0;"ARE YOU OPERA
TING ""CW"" OR","""PHONE""? ";
5055 INPUT M$
5056 IF M$<>"CW" AND M$<>"PHONE"
 THEN GOSUB 50
5058 PRINT AT 20,0;"
                    "
5059 IF M$<>"CW" AND M$<>"PHONE"
 THEN GOTO 5050
5060 PRINT AT 8,10;M$
5062 IF Z$="1" THEN RETURN
5065 PRINT AT 20,11;"STAND-BY..."
5075 GOSUB 100
5100 REM **DRAW CHART
5105 CLS
5107 FAST
5110 FOR Y=0 TO 31
5115 PRINT AT 1,Y;"*";AT 5,Y;"*"
;AT 16,Y;"*"
5120 NEXT Y
5125 PRINT AT 3,0;"******** TUNE
R SETTINGS ********"
5130 PRINT AT 7,0;B;" METER ";M$
;" OPERATION USING","THE ";A$;"
ANTENNA."
5135 GOSUB 100
5140 PRINT
5145 PRINT "$SERIES$CAPACITANCE$
";S$(X)
5150 PRINT
5155 PRINT "$SHUNT$CAPACITANCE$=
";C$(X)
5160 PRINT
5165 PRINT "$INDUCTANCE$=";I$(X)
5168 PRINT AT 18,0;" ENTER ""C""
 TO GET A PRINTOUT."
5169 PRINT AT 19,14;"OR"
5170 PRINT AT 20,0;"PRESS ENTER
TO RETURN TO MENU."
5172 SLOW
5175 INPUT E$
5176 IF E$="C" THEN COPY
5177 IF E$<>"C" THEN GOTO 5160
5178 GOTO 5175
5180 GOTO 3020
6000 REM **EXIT PROGRAM
6010 CLS
6015 PRINT "    IF YOU HAVE ENTER
ED NEW TUNERSETTINGS INTO THIS P
ROGRAM, IT","MUST BE SAVED ON TA
PE.  TO SAVE THE PROGRAM, SET TH
E TAPE TO","RECORD AND PRESS ""R
"" THEN ENTER."
6017 PRINT
6020 PRINT "    IF NO NEW INFORMA
TION HAS","BEEN ENTERED A SAVE I
S NOT","NECESSARY."
6022 PRINT
6025 PRINT "    IN ORDER TO REENT
ER THE","PROGRAM WITHOUT LOSING
THE","SETTINGS, SIMPLY PRESS ENT
ER."
6030 INPUT Q$
6035 IF Q$="R" THEN GOTO 6050
6040 GOTO 3020
6050 REM **SAVE SEQUENCE
6055 CLS
6060 PAUSE 15
6065 SAVE "TUNER"
6070 GOTO 3000
6075 STOP
9998 REM **MEMORY CHECK
9999 PRINT AT 10,14;PEEK 16404+2
56*PEEK 16405-16384
```

"TUNER"

INVERSE CHARACTER LISTING
($=INVERSE SPACE)

LINE	INVERSE
3010	$$$$KA2LHQHAMHELPER$SERIES$$$$
4045	$SERIES$CAPACITANCE$-$
4065	$SHUNT$CAPACITANCE$-$
4085	$INDUCTANCE-$
5145	$SERIES$CAPACITANCE-$
5155	$SHUNT$CAPACITANCE--$
5165	$INDUCTANCE---------$
5170	ENTER
5015	ENTER
6025	ENTER

Oh Really? How Hot Is It?

(SEE COMMENTS ON PG. 9)

By Thomas Bent

This comes as a sequel to last issues not-a-review on this program (Hot Z.) It became apparent to me that I was not the only person that had to reread the HotZ manual in order to absorb the necessary information. When I got my original version 1.3, about 2 years ago, I was confounded by all the new abilities I had at my disposal. Once I got the hang of using this creation, I rather enjoyed paging through those unbreakable programs (among other things) to see what made them tick. I had all the commands down practically as second nature.

Ray Kingsley (a ZX80er and Sir Clive admirer from way back) decided to one up everybody and redesign HotZ. HotZ II has a completely rewritten structure so as to be relocatable (as was V1.7). No easy feat! A direct memory assembler is also added. HZ II is made for the 2068, but fortunately it was written on and available for a TS1000 too. The minor changes include all commands being shifted rather than one button pushes as Hot Z is. This of course means relearning where all the commands are plus the new ones. Instead of reviewing per se, I feel some hints and warnings would be more appropriate. Indeed, knowing Hot Z is an education in itself.

On loading, the HZ cover comes up. Hitting S will save the 16K (only) version and come back to the screen. Any other key press starts the tour. Location 0000 is first up. Enter 4000 to see your TS operating system variables nicely labeled and use ENTER to page through memory. A BIG REM is also on the tape. Enter shift Q and load it in Basic. It will come up and tell you it's a BIG REM. You now have a place to write and save your MC routines as well as the whole 16K block (see notes,set ramtop, eline, stkend, stkbot). The 64K version also has an extra name file to load to add meaning to some of those routines. Be careful loading large basic programs, because HZ II does not reset ramtop to protect itself. Function 2 in the write mode will (set address to first screen location before F-2). One of the great features of HZ is the 'LOAD, look and COPY' (personal use only please) ability for ANY program. I spent a year trying to 'break' HZ I in order to boot it on another system (CAI stringy floppy at the time). I couldn't, but Ray has since removed the muss and fuss and I now have HZ II on the Compusa disc drive.

The power of this program will make you a much more prolific mach coder. With the power comes the headaches also. You must stay aware o mode your in and where END is as you write (especially insert and delete) code. Move END around often (it is very useful) and try to keep it as close what is practical to where you are working. Keep your data and op cod separated. This will help you relocate your program easier if needed. HZ wil keep track of relative jumps so that if you insert some code, it will change the relative jump to a regular jump. Be careful changing code back because HZ is a memory edit. You can overwrite an adjacent instruction accidently (set END properly to avoid this).

HZ also has a single step mode. This gem lets you test each instruction separately and check the values of each register and status flags. You can change these values quite easily if necessary. A good way to crash is to start at a rom routine and start running calls (a way to get through those huge timing loops, etc.). You will invariably RETurn with nowhere to go so be careful. Don't POP IX or JUMP IX either. The IX controls the video display. Some operating systems may have these commands in them.

When you SAVE from HZ, set END to the last byte you want to keep and the cursor to the first. Execute a shift Q from the write mode. Write down the difference total. When you want to LOAD this data, set END to the number You wrote down and the cursor to the first byte and shift Q again. Set END to the sum value and start loading (shift Q does HEX arithmetic). You can load your code to any block conveniently. HZ is loaded with this sort of nicety. One thing HZ II does not have that HZ I did, is a command list. Sorry, no room for it in this version. The 64K version does have a name file for some of the HZ routines. Another feature is the alternate name file capability. On the TS1000, the ROM name file can be loaded an set so that when you're paging

(CONTD PG. 7)

LISTING FOR "MOBILES II"

```
   0 REM (C)MAY, 1983; KRAIG D.
PRITTS; LEONARDSVILLE, NY 13364
   1 REM "MOBILES II"
  95 GOTO 120
  98 IF LEN V$=1 THEN LET V$=V$+
" "
  99 IF LEN V$=2 THEN LET V$=V$+
" "
 100 IF LEN V$=3 THEN LET V$=V$+
" "
 101 IF LEN V$=4 THEN LET V$=V$+
" "
 102 IF LEN V$=5 THEN LET V$=V$+
" "
 103 RETURN
 106 DIM Z$(1201,6)
 108 LET Z$(1201)="END    "
 110 LET X$="              "
 112 LET Y$=Z$(1201)
 114 PRINT AT 21,0;"PRESS ENTER
TO RETURN TO MENU."
 116 INPUT Q$
 120 REM **MENU
 121 CLS
 122 PRINT AT 1,6;"************
*******";AT 2,6;"*MOBILE  QSL BU
REAU*";AT 3,6;"*FIRST CONTACT CA
RD*";AT 4,6;"*     LISTING
*";AT 5,6;"********************"
 124 PRINT AT 7,12;"-MENU-";AT 9
,3;"1) MAKE A NEW ENTRY";AT 10,3
;"2) SEARCH FOR A CALL";AT 11,3;
"3) DELETE A CALL";AT 12,3;"4) G
ET A LIST OF ALL CALLS";AT 13,3;
"5) PRINT A QSL";AT 14,3;"6) EXI
T THE PROGRAM"
 125 PRINT AT 15,3;"7) PRINT CON
TACTS"
 126 PRINT AT 20,0;"ENTER YOUR C
HOICE (1-6)."
 128 LET P$=INKEY$
 130 IF P$="" THEN GOTO 128
 132 IF P$="1" THEN GOTO 150
 134 IF P$="2" THEN GOTO 200
 136 IF P$="3" THEN GOTO 250
 138 IF P$="4" THEN GOTO 300
 139 IF P$="7" THEN GOTO 700
 140 IF P$="6" THEN GOTO 325
 141 IF P$="5" THEN GOTO 400
 142 GOTO 128
 150 REM **NEW ENTRIES
 152 CLS
 154 FAST
 156 FOR Z=1 TO 1201
 158 IF Z$(Z)=X$ THEN GOTO 166
 160 NEXT Z
 162 PRINT AT 11,5;"SORRY---NO M
ORE ROOM."
 163 SLOW
 164 GOTO 114
 166 PRINT AT 1,9;"ENTRY MODE";
AT 3,0;"ENTER THE NEW CALL AT T
HIS TIME."
 168 SLOW
 170 INPUT U$
 171 PRINT AT 5,12;U$
 172 LET Z$(Z)=U$
 174 GOTO 114
 200 REM **SEARCH
 202 CLS
 204 PRINT AT 1,8;"SEARCH MODE
";AT 3,0;"ENTER THE CALL IN QUE
STION."
 206 INPUT V$
 208 GOSUB 98
 209 FAST
 210 FOR Z=1 TO 1201
 212 IF V$=Z$(Z) THEN GOTO 222
 214 NEXT Z
 216 PRINT AT 5,13;"NO";AT 7,0
;V$;" IS NOT LISTED AS HAVING";"
BEEN SENT A FIRST CONTACT QSL","
CARD VIA THE MOBILE BUREAU."
 218 PRINT AT 11,0;"TO ADD ";V$;
" TO THE LIST USE","THE NEW ENTR
Y OPTION FROM THE","MENU."
 219 SLOW
 220 GOTO 114
```

```
 222 PRINT AT 5,12;"YES";AT 7,
0;V$;" IS LISTED AS HAVING BEEN"
,"SENT A FIRST CONTACT QSL VIA",
"VIA THE MOBILE BUREAU."
 223 SLOW
 224 GOTO 114
 250 REM **DELETION
 252 CLS
 254 PRINT AT 1,7;"DELETION MODE
";AT 3,0;"ENTER THE CALL TO B
E DELETED."
 256 INPUT V$
 258 GOSUB 98
 259 FAST
 260 FOR Z=1 TO 1201
 262 IF V$=Z$(Z) THEN GOTO 272
 264 NEXT Z
 266 PRINT AT 5,0;V$;" HAS NOT B
EEN FOUND IN","THIS LIST."
 268 SLOW
 270 GOTO 114
 272 PRINT AT 5,0;V$;" HAS BEEN
FOUND.",,,"ENTER ""D"" TO DELETE
THIS CALL."
 274 SLOW
 276 INPUT U$
 278 IF U$="D" THEN LET Z$(Z)="
"
 280 IF U$<>"D" THEN GOTO 286
 282 PRINT AT 9,0;V$;" HAS BEEN
DELETED FROM","THE LIST."
 284 GOTO 114
 286 PRINT AT 9,0;"NO DELETION H
AS BEEN MADE."
 288 GOTO 114
 300 REM **LIST ALL CALLS
 301 CLS
 302 PRINT "LIST CALLS TO (S)CRE
EN OR TO THE(P)RINTER?"
 303 LET A$=INKEY$
 304 IF A$="" THEN GOTO 303
 305 IF A$="S" THEN GOTO 308
 306 IF A$="P" THEN GOTO 315
 307 GOTO 303
 308 CLS
 309 FOR Z=1 TO 1200
 310 SCROLL
 311 PRINT Z$(Z)
 312 NEXT Z
 313 PRINT AT 19,5;"END OF LIST
";
 314 GOTO 114
 315 CLS
 316 FOR Z=1 TO 1200
 317 LPRINT Z$(Z),
 318 NEXT Z
 319 GOTO 313
 325 REM **EXIT
 326 CLS
 328 PRINT AT 1,5;"EXIT PROGRAM
";
 330 PRINT AT 3,4;"IF YOU HAVE A
DDED NEW CALLS","TO THE LIST, TH
IS PROGRAM MUST","BE SAVED ON TA
PE."
 332 PRINT AT 7,0;"TO SAVE THIS
PROGRAM PRESS "S"."
 334 PRINT AT 9,0;"TO RETURN TO
THE MENU WITHOUT","A LOSS OF DAT
A PRESS "R"."
 336 PRINT AT 12,0;"TO SIMPLY EN
D THIS PROGRAM","PRESS "0"."
 338 LET T$=INKEY$
 340 IF T$="" THEN GOTO 338
 342 IF T$="S" THEN GOTO 350
 344 IF T$="R" THEN GOTO 120
 346 IF T$="0" THEN STOP
 348 GOTO 338
 350 REM **SAVE ROUTINE
 352 CLS
 354 PRINT AT 10,10;"START TAPE"
;AT 11,10;"PRESS ENTER"
 356 INPUT S$
 357 CLS
 358 SAVE "MOBILES II"
 360 GOTO 120
 400 REM **QSL PRINTING
 402 CLS
```

```
 404 PRINT AT 1,6;"QSL PRINTING
MODE"
 406 GOTO 470
 408 CLS
 410 PRINT AT 1,3;"
 420 PRINT AT 2,3;"
 422 PRINT AT 3,3;"
 424 PRINT AT 4,3;"
 426 PRINT AT 5,3;"
 428 IF G$()"MADISON,NY" THEN PR
INT AT 5,27;" / M"
 430 PRINT AT 8,1;"TO RADIO ";A$
;" CONFIRMING OUR"
 432 PRINT AT 9,1;B$;" MHZ QSO O
N ";C$;" AT"
 434 PRINT AT 10,1;D$;" UTC.  UR
 SIGNAL WAS ";E$;"."
 436 PRINT AT 11,1;"RIG HR IS HE
ATHKIT HW-101/100W."
 438 PRINT AT 12,1;"THE ANT IS "
;F$;"."
 440 PRINT AT 14,1;"COUNTY-";G$
 442 PRINT AT 16,1;"REMARKS: ";H
$
 446 PRINT AT 18,21;"73""S
"
 448 PRINT AT 19,1;I$;" QSL  BOX
 196"
 452 PRINT AT 20,10;"LEONARDSVIL
LE,NY"
 454 PRINT AT 21,10;"13364 - USA
"
 466 GOTO 550
 470 PRINT
 472 PRINT "CALL-";
 474 INPUT A$
 476 PRINT A$
 478 PRINT
 480 PRINT "FREQUENCY (MHZ)-";
 482 INPUT B$
 484 PRINT B$
 486 PRINT
 488 PRINT "DATE-";
 490 INPUT C$
 492 PRINT C$
 494 PRINT
 496 PRINT "TIME (UTC)-";
 498 INPUT D$
 500 PRINT D$
 502 PRINT
 504 PRINT "HIS/HER REPORT-";
 506 INPUT E$
 508 PRINT E$
 510 PRINT
 512 PRINT "YOUR ANTENNA-";
 514 INPUT F$
 516 PRINT F$
 518 PRINT
 520 PRINT "YOUR COUNTY-";
 522 INPUT G$
 524 PRINT G$
 526 PRINT
 528 PRINT "REMARKS-";
 530 INPUT H$
 532 PRINT H$
 534 PRINT
 536 PRINT "QSL (PSE OR TNX)-";
 538 INPUT I$
 540 PRINT I$
 541 FOR X=1 TO 20
 542 NEXT X
 546 GOTO 408
 550 PRINT AT 0,0;"PRESS "P" TO
PRINT, "R" TO REDO."
 552 LET O$=INKEY$
 554 IF O$="" THEN GOTO 552
 556 IF O$="P" THEN GOTO 600
 558 IF O$="R" THEN GOTO 120
 560 GOTO 552
 600 REM **QSL TO PRINTER
 602 PRINT AT 0,0;"
 604 COPY
```

```
 606 GOTO 114
 700 REM **CONTACT LIST
 705 CLS
 710 LET G$="*INDICATE RECENT OR R
ECEIVED*"
 715 PRINT "CALL-";
 720 INPUT A$
 725 PRINT A$
 730 PRINT "COUNTY,STATE-";
 735 INPUT B$
 740 PRINT B$
 745 PRINT "REPORT-",,G$,
 750 INPUT C$
 755 PRINT C$
 760 PRINT "REPORT-",,G$,
 765 INPUT D$
 770 PRINT D$
 775 PRINT "TIME (UTC)-";
 780 INPUT E$
 785 PRINT E$
 790 PRINT AT 20,0;"IF ALL IS OK
AY PRESS "P", IF NOTPRESS "N"."
 795 LET F$=INKEY$
 800 IF F$="" THEN GOTO 795
 805 IF F$="P" THEN GOTO 850
 810 IF F$="N" THEN GOTO 120
 815 GOTO 795
 850 LPRINT A$,E$;" UTC",B$
 855 LPRINT C$,D$
 860 LPRINT "******************
************"
 865 GOTO 700
3998 REM **MEMORY CHECK
9999 PRINT PEEK 16404+256*PEEK 1
6405-16384
```

"MOBILES II"
INVERSE CHARACTER LISTING
($=INVERSE SPACE)

LINE	INVERSE
114	ENTER
166	$ENTRY$MODE$
204	$SEARCH$$MODE$
216	NO
222	YES
254	$DELETION$$MODE$
313	ENDOF$LIST$
328	$EXIT$PROGRAM$
332	5
334	R
336	0
354	ENTER
404	QSLPRINTING$MODE$
410-426	(VARIOUS GRAPHIC USED IN CONSTRUCTION OF YOUR CALLSIGN)
446	(SIX OF GRAPHIC 6)
550	$PRESS$PTOPRINTORR$ TO$REDO$
710	5;R
790	P;N

TIMEX SINCLAIR USER

Some of our readers have outstanding subscriptions to TIMEX SINCLAIR USER, another magazine which appearently will not resume publication. Bill Walker, KA8RNY, is one of these. He has, however, been able to get his money back. After a long and involved process, he is now able to show something for his $58 for two subscriptions. After an exchange of letters with Carl Cramer, Vice President of Computer Communications Incorporated, the company which purchased the rights to TIMEX SINCLAIR USER, he received $29 in cash for one subscription and a subscription to SYNTAX, another Timex-Sinclair magazine, for his other subscription. Cramer indicated that Computer Communications Incorporated had entered into an agreement with SYNTAX to fulfill old USER subscriptions. Others have suggested that the magazine K-Power will be used to fulfill the subscriptions. If you have any issues due to you, it is suggested that you write to Carl Cramer and explain the situation. This precedent suggests that you will get satisfaction. Bill did write to the Attorney General in Maine before he got action; but, now that he has taken that step, it probably will not be necessary for anybody else to do that. A possible address to use is Timex Sinclair User, 67 Elm St., Camden, Msine 04843 with a telephone number of (207) 236-4365. If any reader has further trouble, drop QZX a note. (Be sure you do not confuse TIMEX SINCLAIR USER with T-S USER, another magazine which went out of business.)

EDITORS NOTE:
SORRY FOR ALL THE TILTING AND SHRINKING, I CAME UP WITH 13 PAGES BY MISTAKE AND HAD TO BACK-PEDDLE A BIT!

*** KA2LHO HAM HELPER SERIES ***
Kraig D. Pritts - KA2LHO
3421 Oneida St.
Chadwicks, NY 13319

NEW !!!

NOVICE EXAM KIT

FOR TIMEX/SINCLAIR COMPUTERS

This is a series of four programs which use all 200 FCC questions to randomly make up a written Novice exam. A different test is given each time! This is useful for practice sessions as well as giving exams to potential Novices. This kit is great for individual testing as it eliminates all paperwork---load a program and go! The package is complete with the four programs on a tape cassette and a 12 page documentation booklet. Also included is a listing of the "working portion" of the program so you can see how it works and make modifications if you desire.

This is the first program of its kind for the Timex/Sinclair computers so don't miss out on it!!!

COMPLETE PACKAGE
(tape, listing, documentation)
$25.00 (U.S.)
$27.00 (elsewhere)

NEW!!!
ALL programs in the KA2LHO HAM HELPER SERIES are now also available on cassette for the Timex/Sinclair 2068 computer AT THE SAME LOW PRICES AS FOR THE 1000 AND 1500 SERIES COMPUTERS.

Send a large S.A.S.E. with two stamps for a complete listing of programs available in the Ham Helper Series.

FCC EXAM GENERATOR

Alex. F. Burr K5XY

All of the readers of this magazine will be familiar with the many fine programs which KA2LHO has written. He has shared most of them with our readers. Here is a program in his Ham Helper series which is just too big to include here. Besides it would be too big a job to key it in. Just the control program itself takes up three pages and about 200 lines. The text questions which came with it are divided into four parts of almost 16K each.

The program is designed for two purposes. One, to help prepare a student to take the written part of the FCC novice exam. Two, to automatically prepare the written part of the novice exams to be given by volunteer examiners. It performs the first task in the same way it performs the second - by the creation written multiple choice exams. Thse exams will, if a printer is used, satisfy all the FCC record keeping regulations as now existing. The program corrects the questions, presents the right answers to missed questions, and computes your score at the end.

This kit is designed for use with a ZX-81, T/S 1000, or T/S 1500 conputer containing a minimum of 16K RAM. A version for the T/S 2068 os also available.

A ZX or T/S 2040 printer is convenient for hard copy of each test and result, but it is purely optional if the program is used for study only. The print routine is automatic and will not affect operation of the program in any way.

The cassette tape contains four programs (two per side). Each of the programs contain an average of 50 questions and are identical except for the specific questions in each. In total, the kit contains all 200 questions published by the FCC in PR Bulletin 1038A. The diagrams to be used come with the instruction book.

The main difficulty with the program, especially as a study guide, is that the correct answer is flashed on the screen for such a short time that the student cannot carefully read the correct answer itself. Because the program is written in Basic, it should be easy to increase the time delay on this screen. Of course, if a printer is used, the right answer will be part of the permanent record.

I think it would make most test takers excessively nervous to have their answers graded immediately after entry. I would become shell shocked after a few of my answers had been declared wrong. It would not be a big task to make a study version with a user controlled pause to study the right answer after a mistake, and a test version which would not report a mistake until after the test is over.

The program is so large that if it is lengthened much it will exceed the 16K usually available. The author has taken advantage of a number of memory saving programing tricks like using pi/pi for 1 and A-A for 0.

The program comes on a high quality Radio Shack computer cassette. It is accompanied by a 12 page miniographed instruction book.

"Novice Class Amateur Radio Licinse Examination Kit", KA2HLO, Chadwicks, NY, 13319. Cassette and instruction book, $25.00.

ENTER YOUR ANSWER

** PRESS ENTER TO CONTINUE **

WHAT AUTHORITY IS DERIVED FROM AN AMATEUR RADIO STATION LI-CENSE?

E THE RIGHT TO SPECIFIED OPERATING FREQUENCIES

B AUTHORITY TO OPERATE AN AMATEUR RADIO STATION

D AUTHORITY TO ENFORCE FCC RULES WHEN VIOLATIONS ARE NOTED ON THE PART OF OTHER OPERATORS

B AUTHORITY TO TRANSMIT ON BOTH AMATEUR AND/OR CB/GMRS CITIZENS BAND FREQUENCIES

HOT Z-II (CONTD)

around the rom, you can see routines by name. Instructions on how to change name files (ALNA) are quite complete as are most of the functions. I suggest writing the necessary code to make the change and use the transfer command to move it in place (just good practice).

Along with the Read, Write and One Step modes, there is a Floating Point mode available. This mode allows you to look at those RST28 codes using the forth like terms of the calculator. Along with these one byte codes come those 5 byte numbers of the successive approximator (for sine, cosine, etc.). This byte appears often and can cause a tremendous slowdown of the screen display and print alot of gibberish when accessed at the wrong time. Fortunately there are commands available to turn off this beast when not needed and invoke it when necessary (shift 4 and W in read mode).

There are several commands that are meant to be used in series with other commands. For instance, before you load data from a tape, you should clear the area between the cursor and END with Function 0. Relocating code, again needs several steps. There are 9 variable slots (all named) in the operating system calculator stack. These must be set for code, data and variables depending on what you are relocating and execute a Function 8. Function 7 will readdress jump tables. If your routine prints to the screen, then an alternate screen can be set up in memory to watch the action. There is so much to learn in this program that it cannot be presented in just two pages.

The 2068 version (I have not seen this one) has added commands above what the 1000 has. Tom Woods tells me that his 2068 version will load in 1000 tapes. He didn't say if it converted them to ASCII or not though. Of all the programs I have ever used, this one captured my curiosity and is keeping me intrigued! Still! ₪

16K HotZ-II Fix — by FN

The 16K Hot-Z II has a minor "bug" which causes the program to wipe the bytes from 8000h-8020h when you QUIT the program. If you're storing complete BASIC programs in the 8009-BFFF range, this will "eat" some system variables stored up there.

The author supplies this fix: load HOT-Z, and then use it to load a "slave" copy of itself at 8009 as described in the documentation. At 8DDF there will be a LD BC,009F; change this to LD BC,007F, and save the "slave" to a new tape; when using this in the future, the bytes 8000-8020 will be left alone. When HZII boots itself, the address of this command becomes 581B. You might also want to change the version number in the "cover" to reflect the change, e.g. add a "-1." ₪

SYNCWARE NEWS

ORDER FORM - SPECIAL OFFER

As a special offer to current Volume 1 subscribers ONLY, and only until 31 July 1984, you can get SWN Volume 2 at the special rate of only $15.00. Send check, MO, VISA/MC to:

SyncWare News,
c/o THOMAS B. WOODS
PO BOX 64
JEFFERSON, NH 03583.

ENTER MY SUBSCRIPTION TO SYNCWARE NEWS, VOLUME 2.

CHECK _____ MONEY ORDER _____ VISA _____ MASTERCHARGE _____

Name _____ Account number _____

Address _____ Signature _____

City _____

THE LAST WORD... Thus ends Volume 1. Once again, though, the end is just the beginning. Once again, the darkest hour was just before the dawn, but now it's a new day for us Sinclair computerists. Till we see you in SyncWare News 2:1, Three's on you, and HAPPY COMPUTING!

LEARNING T/S BASIC

ALEX. F. BURR K5XY

Learning TIMEX Sinclair BASIC, a book by David A. Lien, is one of the casualties of the Timex withdrawal. It just never will get the sale that it deserves. A T/S 1000 and this book would be one of the most cost effective introductions to computers and BASIC available. The book is still available however (see end of article).

David Lien is a good and prolific author. He learned Basic early and has since written at least eleven books. Actually he wrote one book eleven times.

That is, he wrote a good elementary book on the Basic language and then applied the book in specialized form to eleven popular computers including the Timex. This procedure is very effective because it allows the reader to try out all ideas on the computer at hand and permits Lien to give specific instructions and to comment on the specific results.

Occassionally this procedure does get him into trouble. Sometimes changes required from one book to the other have not been made and a bit of confusion results. Despite some occasional lapses, Lien really does know the T/S computers and he makes all the necessary distinctions between the ZX81 and the T/S 1000.

The book is written for the complete novice. No knowledge is assumed (of computers that is - you still have to know how to read). All instructions are really step-by-step. Yet he does cover some subjects, like flow charting and debugging, from which intermediate reders would benefit.

Not everybody will like Lien's style, which is to try to be witty (sometimes successfully) and light. Despite his sometimes silly jokes, his writing is clear, understandable, and free from the turgid prose of some computer books. Each of the 38 short chapters are introduced with a somewhat crudely drawn cartoon, most of which are at least mildly funny.

Lien's book is a success in that it is clearly written, breaks the subject down into easy to understand parts, and is elementary without being condesending.

The book is also well produced. The paperback cover is well made, the type is large, and the program listings are easy to read. The book did not, however, solve the problem of how to differentiate between tokens and words or some of the other multi-purpose key problems of the Timex. It even has a useful four page index.

(Learning TIMEX Sinclair BASIC, David A. Lien, CompuSoft Publishing, San Diago, CA 92119, 325 pages +, ISBN 0-932760-15-5 $14.95)

BARGAIN BOOKS

Alex. F. Burr K5XY

The demise of Timex as a computer marketer means that some publishers are left with Timex books they have a hard time selling. This situation can result in sales with some real bargains for us. Howard Sams is having just such a sale with some really cheap good Timex books. They have Timex Sinclair Basic Primer, With Graphics regularly $9.95 for just $0.99. Written by a very well known author, it will probably not have much new for the person who has studied the instructions which came with his computer.

A more useful book might be Timex Sinclair 1000/ZX81 User's Handbook regularly $5.95 for $1.99. The coverage of this book includes hardware and peripheral details, interfacing via the edge connector, machine code programing, and possibly troublesome areas of BASIC. It includes many programs in machine code and BASIC.

(CONTINUED -PAGE 9)

The Brother EP-44 'Typewriter'

From Bob Howard, WA6DLI comes details on what looks like a real bargain in the typewriter/printer department. The letters he sent were done with it and they look spectacular. The EP-44 is a typewriter with a 4K memory, LCD display to see what you have typed BEFORE you print it, I suppose, and can be used 'stand alone'; or with its built-in RS-232 interface it can be interfaced to most any computer. It sells for $249 in discount stores, and uses thermal ribbons that cost about $2 each. It has a 24 x 18 dot matrix head and prints on ordinary paper! I haven't seen one here locally, so I'm taking tidbits from Bob's letter. Following this article is a small sample of its output, hopefully the printed version will be a faithful reproduction of the excellent print that the EP-44 provides. And for the Field Day fans, the EP-44 runs on 4 D cells! I was impressed and appreciate Bob sending in the information on it. He 'cheated' and wrote us in the stand-alone mode but says he has it interfaced to his Timex/Sinclair.

ABCDEFGHIJKLMNOPQRSTUVWXYZ abcdefghij

!@#$%¢&*()_+ :",.? äµ$¢£₧¥ÇçÅåiß;'¶#|

Taswide & Tasword II (for the 2068)

Also sent to us from Bob was information on a word processor program for the TS-2068 (& Spectrum) that allows upper and lower case, 64 character wide printing on the 2040 printer along with a 32 char/line 'screen dump' mode for cutting and pasting a full 64 characters wide. I liked the fine print in the 64 character mode, but the vertical spacing between the 'dots' on the 2040 are a bit wide and readability suffers a bit. In the larger 32 character mode, the letters are easier to read. Tasword II has several nice features, and sells for $49.95. Taswide is a utility program which gives program output to the screen at 64 char/line as well as 32 char/line. It's a simple machine call to toggle between modes. Taswide sells for 19.95. For more info, contact Ramex, 48945 Van Dyke Road, Utica, Mich., 48087. Tell them you read about it in QZX but couldn't find their ad ANYWHERE in this excellent magazine!

HotZ-II (more details)

Elsewhere in this issue is a reprint from SyncWare News of a review of HotZ-II. I promised to do one months ago, tried and loved HotZ-II, and highly recommended it. Then I took the easy way out and printed SyncWare News' earlier comments about it. The additional comments in this issue should give you a better idea of its capability. TS-2068 owners note that there is a version for you too. If you are 'sold' or even curious about it, write to Ray Kingsley, Sinware, Box 8032, Santa Fe, NM, 87504 for more details. I have also included a special offer order form for SyncWare News for those of you looking for another excellent Timex/Sinclair publication (gettin' kinda' scarce). They like to get pretty heavy into the mathematics, but offer a lot of useful general purpose information also. The new volume coming up is to be full-size, a relief to those not liking micro-print. If you do subscribe, tell them QZX sent you and they better extend the July 31 subscription deadline!

(SEE REVIEW ON PG. 4)

(CONTINUED FROM PAGE 8)

A real bargain for T/S 2068 owners will be Timex Sinclair 2068 Beginner / Intermediate Guide regularly $9.95 now $3.99. This book never had a chance. Now with further information on the 2068 likely to be hard to find, this should be a real bargain. It covers some of the more advanced manipulations possible with the 2068 plus color, graphics, and sound. Several tested programs are included which you can enter, use, and modify, in order to learn by doing.

UNCLASSIFIED ADS

WANTED: UNCLASSIFIED ADS for publication in QZX. Cost is 1 cent for each keystroke (characters, blanks, etc.). Payment must be included with order. This is an excellent way to sell your program or unwanted equipment, ask for help, or find a specific program. Send your ad with payment to QZX, 2025 O'Donnell, Las Cruces, NM 88001.

FOR SALE: ZX81/TS1000 edgeboard wire-wrap connectors; keyed; bifurcated contacts; manufactured by TI; $5.00 each. Pc piggy-back extender boards; $1.50 each. Economical experimenting with Radio-Shack's 276-158 and 161 project boards and these connectors. Add $0.75 shipping per order. Paul Hunter, 1630 Forest Hills Drive, Okemos, MI 48864.

FOR SALE: CWSS users: MLI speeds up your program and gives you a delete function. Don't XMIT your mistakes, DELETE them! MLI cassette and simple instructions- $7.50 ppd. John McGinley / 203 Milwaukee St / Mauston, WI 53948.

FOR SALE: A few 8086 microprocessors at $15 each postpaid. Alex. F. Burr, 2025 O'Donnell, Las Cruces, NM 88001.

FOR SALE: Professional quality software for all Sinclair computers. My SUPERTAPE has 45 programs for the T/S 1000 and was rated 4 stars by Triangle Sinclair User Group. I also have a SUPERTAPE for the T/S 2068 with 6 programs and 19 options that load simultaneously. In addition, I sell both an ASSEMBLER and a COMPILER for the T/S 2068 that both come on one tape. My compiler is very sophisticated and can do string splicing. Write John Coffey, PO Box 448, Scottsburg, IN 47170. For a free brochure call 1-812-752-6071. All three software packages are an excellent buy at $24.95 and come with a money-back guarantee.

Editor's Doings

Most of my spare time has been spent trying to keep up with all the neat stuff sent to us from Bob Howard, WA6DLI. I need to go spend a week with him to catch up on all his Timex/Sinclair doings! We would like to hear from the rest of you 'activists', let us know what you are doing with your computer. Is it still a trusty workhorse or a unique hat rack? Keep throwing the issues of QZX in the corner with the ol' ZX-80, they will all be valuable collectors items soon. We constantly get requests for back issues. Unfortunately we were unable to predict this and our finances wouldn't allow collection of 'to-be' collectors items.

Coming up is a ZX-81 adaptation of the Moon Tracking Program from July '84 CQ magazine and a Meteor Shower Program from July '84 Ham Radio magazine. I have several other nice programs also, and with a little luck the September issue will be ready BEFORE September. (If Alex will bug me enough)

Some of you are having fun dialing up my "Teacher's Pet" bulletin board. Alex & I try to keep some QZX news on it and have been able to transfer QZX articles via it. There are a few programs on it for downloading, and I hope to put more 'plain vanilla' ones on it soon. I don't know what kind of luck one would have in downloading into a Timex/Sinclair. The Byte-Back modem program I used does a simple download, but puts everything in REMs. I guess you would have to edit out them before running. If you want to venture, the mortgage/bas program would be a good candidate to download. The BB number is 505-646-5194 and has recently changed to the semi-private mode. New users (and those I deleted by mistake) can use the following logon to avoid having to wait for approval after the initial call. Use **QZX JOURNAL** (first name, last name) and use my call, **W4GHV** for the password. Then leave me (SYSOP) a message (L option on menu) with your name & call. Mention you are a QZX reader also. I will add you to the list, using your first name as the password. On subsequent calls you can log on with your own name. I wish I had a 'simple' upload feature on it so you

could upload articles, etc but the two modes, the Ward Christensen, and prompted mode are a bit difficult to use. If interest picks up in it (from QZX readers, I will put some more programs in it for download and fix the upload techniques.

For those of you crazy enough to have more than one computer (not including multiple spare Sinclairs), I wonder if anyone has a Sanyo MBC-555?? I recently landed a good business deal and landed up with one, and really love it. It is the 'Chevy' of the IBM lookalikes and is selling like hotcakes. It's like most others, you can get started fairly reasonable with 128K, one single-sided disk drive, and mono monitor for under $900, and the rest of your inheritance can be spent for upgrading it. Memory expansion and double-sided disks can be found at bargain prices, but a high res color monitor is a different story. If you have one, drop me a postcard and I'll send a copy of a neat newsletter for the 555... 73, Bo-W4GHV

QZX FRIENDS

IW2BZT -- Vit writes that he is returning to Italy after spending some time in the USA.

LA9CK -- Kare sent some information about a FORTH program available in ROM for the ZX81 from Skywave Software, 73 Curzon Road, Bournemouth, BH1 4PW, England. He also sent an announcement of a series of articles on "FORTH in Amateur Radio", the first two of which at least will feature the ZX81. They will appear in Practical Wireless, a very good elementary British magazine which, unfortunately, is hard to get here.

N8EXE -- Ellie wrote to straighten out a mess that I had made of her mailing label and to say that she had recovered from a stay in the hospital. She is one of our subscribers from a town with an unusual name, North Street, MI.

KA4PME -- Carl has a T/S 1000 enclosed in a wooden case with an "IBM" keyboard. He uses the CWSS program to copy CW with an old Heath Kit SB-101 and is extremely pleased with the program. He has a new EP-44 typewriter with a built in RS-232 interface and is trying to figure how to hook it up to his Timex.

WD4CZW -- Dave writes that he would like to see a schematic for screen inversion and for UHF modulators. He also asks why his T/S 1000 will not display on the screen LPRINT or it's graphic alternate?

ZL3TAC -- Brent (from Houston, TX) writes that he has both a ZX81 and a T/S 1000.

AD1B -- Tom is a friend indeed. He wrote a letter telling about QZX to the editors of Ham Radio and they published it. Already we have gotten four subscriptions and about half a dozen inquiries.

KE6EY -- Dean announces that he just passed the extra class exam and announces that his new call is WA6P. Congratulations!

K4BRY -- RF wants to know the best way to transfer programs from the T/S 1000 to the T/S 2068 without having to retype them even if a little translation has to be done with the edit function.

W0IHI -- Weldon, from Morthfield MN, says he is using his Timex with the Kentronics programs for CW and RTTY (put out by KC4UG) with fair success.

WA3QLW -- Les writes that he has five (5!) T/S 1000's and has just received a T/S 2068. He has a full 64K on one along with MEMOTEXT WORD PROCESSOR and centronix interface. The others have 16K and are running RTTY or AMSAT AMS-81. The others are being used for programing and as loaners or spares. All have Suntronics keyboards and are a breeze to use.

KA2LHO -- Kraig (who has supplied QZX with the HAM HELPER series of programs from the tapes he sells) was hit with a disastrous accident when a 45 foot fall while installing his antennas after a move put him in the hospital for two weeks. He writes that he will now have more time to divise his useful programs but does not recommend the experience.

AD1B -- T.M. has about four articles coming out in 73 Magazine. Very good indeed. He suggested that with all the Timex magazines giving up, that we headline an article with "Snyc Sank".

73, W4GHV & K5XY

QZX presents the best software & hardware projects available for the radio amateur. While the contents are believed to be accurate, no warranty is extended on any program or project. No investigation has been made of the claims or reputation of any advertiser. It would be greatly appreciated if all correspondance requiring an answer would be accompanied by a self-addressed stamped envelope (SASE). Copyright by QZX, 1984. All rights reserved, photocopying by permission only.

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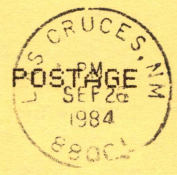

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